

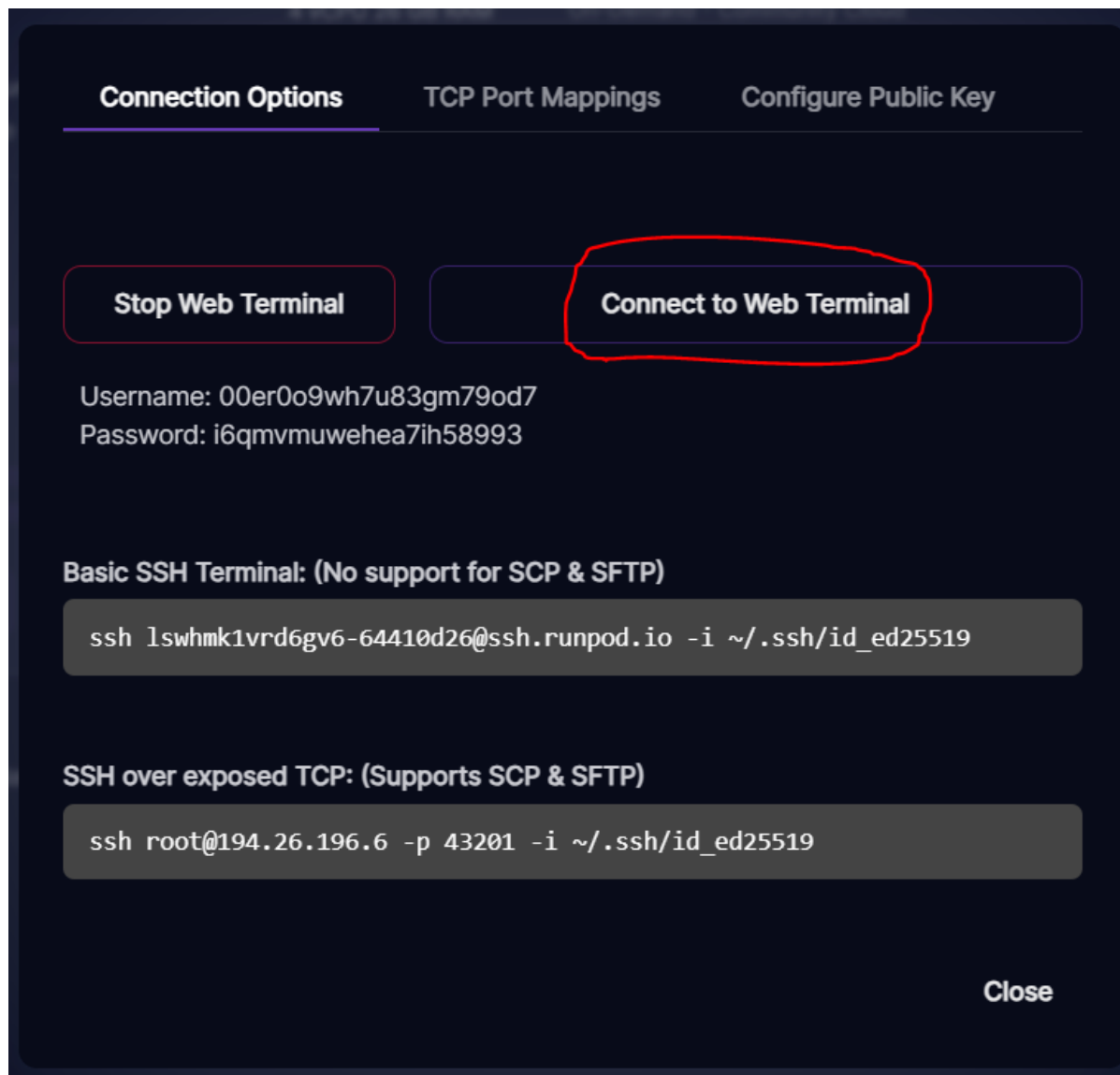
Transfer files with SCP

Prerequisites

i NOTE

Your local machine must be running Linux or a WSL instance in order to use rsync.

1. Make sure your Pod is configured to use real SSH. Refer to this guide for assistance.
2. If you intend to use rsync, make sure it's installed on both your local machine and your Pod with `apt install rsync`.



```
root@9135210edd45:/# apt install rsync
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libpopt0
Suggested packages:
  python3-braceexpand
The following NEW packages will be installed:
  libpopt0 rsync
0 upgraded, 2 newly installed, 0 to remove and 2 not upgraded.
Need to get 464 kB of archives.
After this operation, 936 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu jammy/main amd64 libpopt0 amd64 1.18-3build1 [28.2 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 rsync amd64 3.2.7-0ubuntu0.22.04.2 [436 kB]
Fetched 464 kB in 1s (428 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package libpopt0:amd64.
(Reading database ... 10374 files and directories currently installed.)
Preparing to unpack .../libpopt0_1.18-3build1_amd64.deb ...
Unpacking libpopt0:amd64 (1.18-3build1) ...
Selecting previously unselected package rsync.
Preparing to unpack .../rsync_3.2.7-0ubuntu0.22.04.2_amd64.deb ...
Unpacking rsync (3.2.7-0ubuntu0.22.04.2) ...
Setting up libpopt0:amd64 (1.18-3build1) ...
Setting up rsync (3.2.7-0ubuntu0.22.04.2) ...
invoke-rc.d: could not determine current runlevel
invoke-rc.d: policy-rc.d denied execution of start.
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
root@9135210edd45:/#
```

1. Note the public IP address and external port from the SSH over exposed TCP command (you'll need these for the SCP/rsync commands).

Connection Options

TCP Port Mappings

Configure Public Key

Stop Web Terminal

Connect to Web Terminal

Username: 00er0o9wh7u83gm79od7

Password: i6qmvmuwehea7ih58993

Basic SSH Terminal: (No support for SCP & SFTP)

ssh lswmk1vrd6gv6-64410d26@ssh.runpod.io -i ~/.ssh/id_ed25519

SSH over exposed TCP: (Supports SCP & SFTP)

ssh root@194.26.196.6 -p 43201 -i ~/.ssh/id_ed25519

Close

Transferring with SCP

The general syntax for sending files to a Pod with SCP is as follows (execute this on your local machine, and replace the x's with your Pod's external TCP port and IP; for this example, they are 43201 and 194.26.196.6, respectively):

```
scp -P xxxxx -i ~/.ssh/id_ed25519 /local/file/path root@xxx.xxx.xxx.xxx:/destination/file/path
```

NOTE

If your private key file is in a location other than `~/.ssh/id_ed25519` or you're using the Windows Command Prompt, make sure you update this path accordingly in your command.

```
brand@LAPTOP-300JVE7O: ~/file-transfer-demo
brand@LAPTOP-300JVE7O:/mnt/c/WINDOWS/system32$ cd ~/file-transfer-demo/
brand@LAPTOP-300JVE7O:~/file-transfer-demo$ ls
dataset  model.ckpt
brand@LAPTOP-300JVE7O:~/file-transfer-demo$ scp -P 43201 -i ~/.ssh/id_ed25519 model.ckpt root@194.26.196.6:/workspace
The authenticity of host '[194.26.196.6]:43201 ([194.26.196.6]:43201)' can't be established.
ED25519 key fingerprint is SHA256:ngQ/qsU2r9qwFfntPD+h0rzJ8RajeDcyxsa8RSiWRd8.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '[194.26.196.6]:43201' (ED25519) to the list of known hosts.
model.ckpt                                0% 2992KB 635.8KB/s   27:24 ETA
```

If you want to receive a file from your Pod, switch the source and destination arguments:

```
brand@LAPTOP-300JVE7O: ~/file-transfer-demo
brand@LAPTOP-300JVE7O:/mnt/c/WINDOWS/system32$ cd ~/file-transfer-demo/
brand@LAPTOP-300JVE7O:~/file-transfer-demo$ ls
dataset  model.ckpt
brand@LAPTOP-300JVE7O:~/file-transfer-demo$ scp -P 43201 -i ~/.ssh/id_ed25519 root@194.26.196.6:/workspace/requirements.
txt ~/file-transfer-demo
requirements.txt                          100% 68KB 65.5KB/s   00:01
brand@LAPTOP-300JVE7O:~/file-transfer-demo$ ls
dataset  model.ckpt  requirements.txt
brand@LAPTOP-300JVE7O:~/file-transfer-demo$
```

If you need to transfer a directory, use the `-r` flag to recursively copy files and subdirectories (this will follow any symbolic links encountered as well):

```
brand@LAPTOP-300JVE7O: ~/file-transfer-demo
brand@LAPTOP-300JVE7O:/mnt/c/WINDOWS/system32$ cd ~/file-transfer-demo/
brand@LAPTOP-300JVE7O:~/file-transfer-demo$ ls
dataset  model.ckpt  requirements.txt
brand@LAPTOP-300JVE7O:~/file-transfer-demo$ scp -P 43201 -i ~/.ssh/id_ed25519 -r dataset root@194.26.196.6:/workspace
Quentin-Tarantino@2000x1270.jpg          100% 204KB 131.8KB/s   00:01
MV5BMTgyMjI3ODAzNl5BMl5BanBnXkFtZTcwNzY2MDYxOQ@@._V1_.jpg 100% 658KB 160.9KB/s   00:04
Quentin_Tarantino_by_Gage_Skidmore.jpg  100% 6815KB 63.0KB/s   01:48
The-22secret22-to-Quentin-Tarantinos-dialogue.jpg 100% 79KB 85.8KB/s   00:00
Quentin-Tarantino.jpg                   100% 29KB 67.7KB/s   00:00
Screen-Shot-2022-11-04-at-10.07.10-AM-e1686692929362.png 100% 1904KB 83.5KB/s   00:22
quentin-tarantino-did-not-give-hid-mother-even-a-penny-of-his-net-worth-001.jpg 100% 48KB 82.3KB/s   00:00
80th-annual-golden-globe-awards-pictured-quentin-tarantino-news-photo-1678898281.jpg 100% 767KB 84.4KB/s   00:09
QuentinTarantino.189032.jpg             100% 1767KB 45.3KB/s   00:38
tarantino.png                           100% 2704KB 44.2KB/s   01:01
156802-004-FDD836F6.jpg                 100% 19KB 35.1KB/s   00:00
quentin-tarantino-1509657248.jpg         100% 118KB 38.5KB/s   00:03
Quentin-Tarantino-2020.jpg              100% 122KB 58.6KB/s   00:02
52431_v9_bb.jpg                         100% 307KB 30.5KB/s   00:10
brand@LAPTOP-300JVE7O:~/file-transfer-demo$
```

Transferring with rsync

The general syntax for sending files to a Pod with rsync is as follows (execute this on your local machine, and replace the x's with your Pod's external TCP port and IP):

```
rsync -e "ssh -p xxxxx" /source/file/path root@xxx.xxx.xxx.xxx:/destination/file/path
```

Some helpful flags include:

`-a/--archive` - archive mode (ensures that permissions, timestamps, and other attributes are preserved during the transfer; use this when transferring directories or their contents)

`-d/--delete` - deletes files in the destination directory that are not present in the source

`-p/--progress` - displays file transfer progress

`-v/--verbose` - verbose output

`-z/--compress` - compresses data as it's being sent and uncompresses as it's received (heavier on your CPU, but easier on your network connection)

```
brand@LAPTOP-300JVE70: ~/file-transfer-demo
brand@LAPTOP-300JVE70:/mnt/c/WINDOWS/system32$ cd ~/file-transfer-demo/
brand@LAPTOP-300JVE70:~/file-transfer-demo$ ls dataset/
156802-004-FDD836F6.jpg
52431_v9_bb.jpg
80th-annual-golden-globe-awards-pictured-quentin-tarantino-news-photo-1678898281.jpg
MV5BM7gyMjI3ODAxN15BM15BanBnXkFtZTcwNzY2MDYxOQ@@._V1_.jpg
Quentin-Tarantino-2020.jpg
Quentin-Tarantino.jpg
Quentin-Tarantino@2000x1270.jpg
QuentinTarantino.189032.jpg
Quentin_Tarantino_by_Gage_Skidmore.jpg
Screen-Shot-2022-11-04-at-10.07.10-AM-e1686692929362.png
The-22secret22-to-Quentin-Tarantinos-dialogue.jpg
quentin-tarantino-1509657248.jpg
quentin-tarantino-did-not-give-his-mother-even-a-penny-of-his-net-worth-001.jpg
tarantino.png
brand@LAPTOP-300JVE70:~/file-transfer-demo$ rsync -e "ssh -p 43201 -i ~/.ssh/id_ed25519" ./dataset/Quentin-Tarantino-2020.jpg root@194.26.196.6:/workspace -v
Quentin-Tarantino-2020.jpg

sent 124,730 bytes  received 35 bytes  16,635.33 bytes/sec
total size is 124,605  speedup is 1.00
brand@LAPTOP-300JVE70:~/file-transfer-demo$
```

If you want to receive a file from your Pod, switch the source and destination arguments:

```
brand@LAPTOP-300JVE70: ~/file-transfer-demo
brand@LAPTOP-300JVE70:/mnt/c/WINDOWS/system32$ cd ~/file-transfer-demo/
brand@LAPTOP-300JVE70:~/file-transfer-demo$ ls
dataset  model.ckpt
brand@LAPTOP-300JVE70:~/file-transfer-demo$ rsync -e "ssh -p 43201 -i ~/.ssh/id_ed25519" root@194.26.196.6:/workspace/requirements.txt ~/file-transfer-demo -v
requirements.txt

sent 43 bytes  received 69,441 bytes  15,440.89 bytes/sec
total size is 69,335  speedup is 1.00
brand@LAPTOP-300JVE70:~/file-transfer-demo$ ls
dataset  model.ckpt  requirements.txt
brand@LAPTOP-300JVE70:~/file-transfer-demo$
```

To transfer the contents of a directory (without transferring the directory itself), use a trailing slash in the file path:

```
brand@LAPTOP-300JVE70: ~/file-transfer-demo
brand@LAPTOP-300JVE70:/mnt/c/WINDOWS/system32$ cd ~/file-transfer-demo/
brand@LAPTOP-300JVE70:~/file-transfer-demo$ ls dataset/
156802-004-FDD836F6.jpg
52431_v9_bb.jpg
80th-annual-golden-globe-awards-pictured-quentin-tarantino-news-photo-1678898281.jpg
MV5BMjgyMjI3ODAzNl5BMl5BanBnXkFtZTcwNzY2MDYxOQ@@._V1_.jpg
Quentin-Tarantino-2020.jpg
Quentin-Tarantino.jpg
Quentin-Tarantino@2000x1270.jpg
QuentinTarantino.189032.jpg
Quentin_Tarantino_by_Gage_Skidmore.jpg
Screen-Shot-2022-11-04-at-10.07.10-AM-e1686692929362.png
The-22secret22-to-Quentin-Tarantinos-dialogue.jpg
quentin-tarantino-1509657248.jpg
quentin-tarantino-did-not-give-hid-mother-even-a-penny-of-his-net-worth-001.jpg
tarantino.png
brand@LAPTOP-300JVE70:~/file-transfer-demo$ rsync -e "ssh -i ~/.ssh/id_ed25519 -p 43201" ~/file-transfer-demo/dataset/ root@194.26.196.6:/workspace -va
sending incremental file list
./
156802-004-FDD836F6.jpg
52431_v9_bb.jpg
80th-annual-golden-globe-awards-pictured-quentin-tarantino-news-photo-1678898281.jpg
MV5BMjgyMjI3ODAzNl5BMl5BanBnXkFtZTcwNzY2MDYxOQ@@._V1_.jpg
Quentin-Tarantino-2020.jpg
Quentin-Tarantino.jpg
Quentin-Tarantino@2000x1270.jpg
QuentinTarantino.189032.jpg
Quentin_Tarantino_by_Gage_Skidmore.jpg
Screen-Shot-2022-11-04-at-10.07.10-AM-e1686692929362.png
The-22secret22-to-Quentin-Tarantinos-dialogue.jpg
quentin-tarantino-1509657248.jpg
quentin-tarantino-did-not-give-hid-mother-even-a-penny-of-his-net-worth-001.jpg
tarantino.png

sent 15,918,733 bytes  received 285 bytes  707,511.91 bytes/sec
total size is 15,913,548  speedup is 1.00
brand@LAPTOP-300JVE70:~/file-transfer-demo$
```

```
root@9135210edd45:/# cd workspace/
root@9135210edd45:/workspace# ls
requirements.txt
root@9135210edd45:/workspace# ls
156802-004-FDD836F6.jpg
52431_v9_bb.jpg
80th-annual-golden-globe-awards-pictured-quentin-tarantino-news-photo-1678898281.jpg
MV5BMjgyMjI3ODAzNl5BMl5BanBnXkFtZTcwNzY2MDYxOQ@@._V1_.jpg
Quentin-Tarantino-2020.jpg
Quentin-Tarantino.jpg
Quentin-Tarantino@2000x1270.jpg
QuentinTarantino.189032.jpg
Quentin_Tarantino_by_Gage_Skidmore.jpg
Screen-Shot-2022-11-04-at-10.07.10-AM-e1686692929362.png
The-22secret22-to-Quentin-Tarantinos-dialogue.jpg
quentin-tarantino-1509657248.jpg
quentin-tarantino-did-not-give-hid-mother-even-a-penny-of-his-net-worth-001.jpg
requirements.txt
tarantino.png
```


Without a trailing slash, the directory itself is transferred:

```
brand@LAPTOP-300JVE7O: ~/file-transfer-demo
brand@LAPTOP-300JVE7O:/mnt/c/WINDOWS/system32$ cd ~/file-transfer-demo/
brand@LAPTOP-300JVE7O:~/file-transfer-demo$ ls dataset/
156802-004-FDD836F6.jpg
52431_v9_bb.jpg
80th-annual-golden-globe-awards-pictured-quentin-tarantino-news-photo-1678898281.jpg
MV5BMTgyMjI3ODAzN15BMl5BanBnXkFtZTcwNzY2MDYxOQ@@._V1_.jpg
Quentin-Tarantino-2020.jpg
Quentin-Tarantino.jpg
Quentin-Tarantino@2000x1270.jpg
QuentinTarantino.189032.jpg
Quentin_Tarantino_by_Gage_Skidmore.jpg
Screen-Shot-2022-11-04-at-10.07.10-AM-e1686692929362.png
The-22secret22-to-Quentin-Tarantinos-dialogue.jpg
quentin-tarantino-1509657248.jpg
quentin-tarantino-did-not-give-hid-mother-even-a-penny-of-his-net-worth-001.jpg
tarantino.png
brand@LAPTOP-300JVE7O:~/file-transfer-demo$ rsync -e "ssh -i ~/.ssh/id_ed25519 -p 43201" ~/file-transfer-demo/dataset ro
ot@194.26.196.6:/workspace -va
sending incremental file list
dataset/
dataset/156802-004-FDD836F6.jpg
dataset/52431_v9_bb.jpg
dataset/80th-annual-golden-globe-awards-pictured-quentin-tarantino-news-photo-1678898281.jpg
dataset/MV5BMTgyMjI3ODAzN15BMl5BanBnXkFtZTcwNzY2MDYxOQ@@._V1_.jpg
dataset/Quentin-Tarantino-2020.jpg
dataset/Quentin-Tarantino.jpg
dataset/Quentin-Tarantino@2000x1270.jpg
dataset/QuentinTarantino.189032.jpg
dataset/Quentin_Tarantino_by_Gage_Skidmore.jpg
dataset/Screen-Shot-2022-11-04-at-10.07.10-AM-e1686692929362.png
dataset/The-22secret22-to-Quentin-Tarantinos-dialogue.jpg
dataset/quentin-tarantino-1509657248.jpg
dataset/quentin-tarantino-did-not-give-hid-mother-even-a-penny-of-his-net-worth-001.jpg
dataset/tarantino.png

sent 15,918,763 bytes  received 286 bytes  816,361.49 bytes/sec
total size is 15,913,548  speedup is 1.00
brand@LAPTOP-300JVE7O:~/file-transfer-demo$
```

```
root@9135218edd45:/# cd workspace/
root@9135218edd45:/workspace# ls before
requirements.txt
root@9135218edd45:/workspace# ls after
dataset requirements.txt
root@9135218edd45:/workspace# ls dataset/
156802-004-FDD836F6.jpg
52431_v9_bb.jpg
80th-annual-golden-globe-awards-pictured-quentin-tarantino-news-photo-1678898281.jpg
MV5BMTgyMjI3ODAzN15BMl5BanBnXkFtZTcwNzY2MDYxOQ@@._V1_.jpg
Quentin-Tarantino-2020.jpg
Quentin-Tarantino.jpg
Quentin-Tarantino@2000x1270.jpg
QuentinTarantino.189032.jpg
Quentin_Tarantino_by_Gage_Skidmore.jpg
Screen-Shot-2022-11-04-at-10.07.10-AM-e1686692929362.png
The-22secret22-to-Quentin-Tarantinos-dialogue.jpg
quentin-tarantino-1509657248.jpg
quentin-tarantino-did-not-give-hid-mother-even-a-penny-of-his-net-worth-001.jpg
tarantino.png
```

An advantage of rsync is that files that already exist at the destination aren't transferred again if you attempt to copy them twice (note the minimal data transfer after the second execution):

 [Edit this page](#)